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10/523,120	05/03/2006	Takashi Yoshimura	VPM-02101	5095

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EXAMINER	
DUDA, ADAM K	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/523,120	YOSHIMURA ET AL.	
	Examiner	Art Unit	
	ADAM DUDA	2473	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) *1-16* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-22,24-30,32-38 and 40* is/are rejected.

7)☒ Claim(s) *23,31 and 39* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 January 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments filed 5/28/2009

1. Applicant's arguments with respect to claims 17-40 have been considered but are moot in view of the new ground(s) of rejection.

2. Furthermore, applicant's arguments revolve on the idea that because Fukuta explicitly states that "an object of the present invention to respond to congestion in a packet switch by identifying the congestion to the packet communication equipment without using an acknowledgement packet or a monitoring packet" Fukuta does not provide a the equivalent 'response' or 'notification' of congestion. Fukuta specifically does provide 'notification' and ' 'a response' during the occurrence of congestion. Fukuta does not provide a specific packet called an acknowledgement packet. Applicant in no way is claiming an acknowledgement packet in the claim. Applicant is merely claiming a 'response' that 'provides a delay time' so that congestion may be alleviated. There is not mention whether the 'response' is in a specific 'acknowledgement packet' specifically designed for providing congestion control and only congestion control or, whether like Fukuta, the 'response/notification' is sent in normal data packets so as to conserve bandwidth. Therefore, based on the current claim language the combination of Fukuta and Tokura do disclose the limitations as claimed by applicant. Examiner believes applicant's arguments have been fully addressed.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Response to Arguments filed 5/28/2009

1. Applicant's arguments, see REMARKS, filed 5/28/2009, with respect to 35 USC 112 REJECTIONS have been fully considered and are persuasive. The 35 USC 112 REJECTIONS of all claims have been withdrawn.

2. Applicant argues on page 13 of 18 that "the congestion message does not need to propagate all the way back up the chain to the original source of the packet (as in Fukuta). Examiner respectfully disagrees. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "message does not need to propagate all the way up the chain to the original source") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

3. Applicant argues on pages 13 of 18 and 14 of 18 that "Fukuta's system is specifically designed to avoid the use of an acknowledgement packet or a monitoring packet." Examiner respectfully disagrees. In the arguments applicant does not equate the "response" of the instant invention to a "acknowledgement packet" or a "monitoring

packet". As such, the arguments are not convincing since there is no relationship being made between a "response" and Fukuta's "acknowledgement packet" and "monitoring packet".

Allowable Subject Matter

4. Claims 39, 31 and 23 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

1. the following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 17 and 25 and 35 rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta ("US 5,090,011") in view of Tokura ("US 5,400,329").

Fukuta discloses:

Regarding claim 17, a station (see Fukuta; FIG. 12 and FIG. 13; "PACKET TERMINAL EQUIPMENT 50b") for receiving a message (see Fukuta; FIG. 12 and FIG. 13; "DATA") from a first interconnected station (see Fukuta; FIG. 12 and FIG. 13; "PACKET TERMINAL EQUIPMENT 50a" and "PACKET SWITCHES 60a-c") on an input side (i.e. input side of the "PACKET TERMINAL EQUIPMENT 50b"; see Fukuta; FIG. 12 and FIG. 13; devices "50a" and "60 a-c" are sending "DATA" to "PACKET TERMINAL EQUIPMENT 50b" thus on "the input side" of "PACKET TERMINAL EQUIPMENT 50b") and transmitting message information relating to the received message (see Fukuta; FIG. 12 and FIG. 13; "CONGESTION NOTICE"; col. 11 lines 41-55; "The packet switch 60c transfers at an occurrence of the congestion, a packet from the packet communications equipments equipment 50a to the packet communication equipment 50b and sends further a congestion notice packet to the packet

communication equipment 50a") to a second interconnected station on an output side (see Fukuta; FIG. 12 and FIG. 13; "PACKET TERMINAL EQUIPMENT 50a" and "PACKET SWITCHES 60a-c"; col. 11 lines 41-55; "The packet switch 60c transfers at an occurrence of the congestion, a packet from the packet communications equipments equipment 50a to the packet communication equipment 50b and sends further a congestion notice packet to the packet communication equipment 50a" thus sends it downstream to a interconnected station on the output side of the station), comprising: response means (see Fukuta; FIG. 16; "CONGESTION CEASE NOTICE" generated by response means.) for returning a response (see Fukuta; FIG. 16; "CONGESTION CEASE NOTICE") to a request to receive and accept ~~a~~ the message (see Fukuta; FIG. 16; "POLLING"; col. 13 lines 35-49; using "polling packet" to poll receiver by transmitter to determine if receiver will receive and accept a message) the request being from the first interconnected station (see Fukuta; FIG. 12, FIG. 13, FIG. 16; PACKET TERMINAL EQUIPMENT 50a" and "PACKET SWITCHES 60a-c" are on the input side of "PACKET TERMINAL EQUIPMENT 50b"; FIG. 16; "CONGESTION CEASE NOTICE" sent after "POLLING" and before "DATA"); and congestion detection means (see Fukuta; col. 6 lines 8-19; "congestion detector 223 for measuring the number of occupied packets in a buffer to detect buffer congestion and with a congestion indicator adding circuit 225 for setting the congestion indicator region(CONG)"), coupled to the response means, for detecting that congestion has occurred in the interconnected station (see

Fukuta; FIG. 16; “CONGESTION NOTICE”, “CONGESTION PERIOD”, “CONGESTION CEASE NOTICE” thus existence of a congestion detections means that, by definition, detects whether congestion has occur on the interconnection station on the output side), wherein when occurrence of congestion (see Fukuta; FIG. 16; “CONGESTION NOTICE” after data sent, thus an occurance of congestion) is detected by said congestion detection means (see Fukuta; col. 6 lines 8-19; “congestion detector 223 for measuring the number of occupied packets in a buffer to detect buffer congestion and with a congestion indicator adding circuit 225 for setting the congestion indicator region(CONG)”), said response means conducts congestion control (see Fukuta; FIG. 16; “CONGESTION CEASE NOTICE” is a congestion control notice, thus conducting congestion control) by a response to the request to receive and accept (see Fukuta; FIG. 16; “CONGESTION CEASE NOTICE” is in response to “POLLING” if congestion exists) said message (see Fukuta; FIG. 16; “DATA”) from being transmitted to the first interconnected station (see Fukuta; FIG. 16; “DATA” is from “PACKET TERMINAL EQUIPMENT 50a” and “PACEKT SWITCH 60a-c” thus from the output side to the station input side), wherein polling of the first interconnected station causes a reduction in message throughput received by the station on the input side from the first interconnected station (see Fukuta; col. 13 lines 35-50; “The processing here to reduce the packet flow rate indicates in a case of a window control an operation to lower a window size to a fixed value, whereas the processing to increase the packet flow rate denotes an

operation to gradually increase the window size" AND "In addition, e.g. as shown in FIG 16, after a packet communication equipment receives a congestion notice packet, packet transmission may be stopped such that thereafter a polling packet is transmitted at a constant interval of time and, if the congestion is already resolved, a switch responds to the polling packet to transmit a congestion cease notice packet, thereby resulting in decrease of the packet flow rate.").

Fukuta is suggestive about:

Regarding claim 17, wherein the responding comprises delaying the response (Fukuta does not refer to "delay" throughout his document. He talks about "POLLING" during a "CONGESTION PERIOD" thus an existence of some sort of delay but is silent about a delay specified by STATION with a prescribed time interval)

However, in the packet switched congestion control field of endeavor:

Tokura more specifically discloses:

Regarding claim 17, wherein the responding comprises delaying the response (see Tokura; FIG. 1A, 1B, 1C, 2A, 2B, and 2C; "destination appointed shorter window width" thus a delay for transmitting data if the window was longer; col. 10 lines 18-27; "transfer rate is decreased by setting a packet transmission interval corresponding to $(A*(V_{now} / A)^{Y}$. The packet transmission interval is the value is the value obtained by dividing the packet transfer value V_{now} at that point in time by a minimum packet transfer rate A, raising this to the power y where y is a constant (y<1), and multiplying this by the minimum packet transfer rate A),

Given that the invention of Fukuta and Tokura both relate to packet switched congestion control, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Fukuta, as taught by Tokura, thereby preventing packets from being discarded in the packet network (see Tokura; abstract), allowing buffer memory capacity of nodes in the network to be decreased (see Tokura; abstract), and avoiding theF generation of new packets when signal congestion is predicted (see Tokura; abstract).

Fukuta discloses:

Regarding claim 25, a station (see Fukuta; FIG. 12 and FIG. 13; “PACKET TERMINAL EQUIPMENT 50b”) for receiving a message (see Fukuta; FIG. 12 and FIG. 13; “DATA”) from a first interconnected station (see Fukuta; FIG. 12 and FIG. 13; "PACKET TERMINAL EQUIPMENT 50a” and “PACKET SWITCHES 60a-c”) on an input side (i.e. input side of the “PACKET TERMINAL EQUIPMENT 50b”; see Fukuta; FIG. 12 and FIG. 13; devices "50a" and "60 a-c" are sending "DATA" to "PACKET TERMINAL EQUIPMENT 50b” thus on “the input side” of “PACKET TERMINAL EQUIPMENT 50b”) and transmitting message information relating to the received message (see Fukuta; FIG. 12 and FIG. 13; “CONGESTION NOTICE”; col. 11 lines 41-55; “The packet switch 60c transfers at an occurrence of the congestion, a packet from the packet communications equipments equipment 50a to the packet communication

equipment 50b and sends further a congestion notice packet to the packet communication equipment 50a") to a second interconnected station on an output side (see Fukuta; FIG. 12 and FIG. 13; "PACKET TERMINAL EQUIPMENT 50a" and "PACKET SWITCHES 60a-c"; col. 11 lines 41-55; "The packet switch 60c transfers at an occurrence of the congestion, a packet from the packet communications equipments equipment 50a to the packet communication equipment 50b and sends further a congestion notice packet to the packet communication equipment 50a" thus sends it downstream to a interconnected station on the output side of the station), comprising: response means (see Fukuta; FIG. 16; "CONGESTION CEASE NOTICE" generated by response means.) for returning a response (see Fukuta; FIG. 16; "CONGESTION CEASE NOTICE") to a request to receive and accept the message the request being sent from (see Fukuta; FIG. 16; "POLLING"; col. 13 lines 35-49; using "polling packet" to poll receiver by transmitter to determine if receiver will receive and accept a message) the first interconnected station (see Fukuta; FIG. 12, FIG. 13, FIG. 16; PACKET TERMINAL EQUIPMENT 50a" and "PACKET SWITCHES 60a-c" are on the input side of "PACKET TERMINAL EQUIPMENT 50b"; FIG. 16; "CONGESTION CEASE NOTICE" sent after "POLLING" and before "DATA"); and congestion detection means (see Fukuta; col. 6 lines 8-19; "congestion detector 223 for measuring the number of occupied packets in a buffer to detect buffer congestion and with a congestion indicator adding circuit 225 for setting the congestion indicator region(CONG)"), coupled to the response means, which

detects the occurrence of congestion in the station (see Fukuta; FIG. 16; "CONGESTION NOTICE", "CONGESTION PERIOD", "CONGESTION CEASE NOTICE" thus existence of a congestion detections means that, by definition, detects whether congestion has occur on the interconnection station on the output side) when the filling ratio in a buffer memory that stores said messages or received requests that have not been completely processed exceeds a prescribed filling ratio (see Fukuta; col. 2 lines 45-52; "when it is found that an output line is in a congestion state (namely, the number of packets in the buffer associated with the output line exceeds a threshold"), wherein when the occurrence of congestion (see Fukuta; FIG. 16; "CONGESTION NOTICE" after data sent, thus an occurance of congestion) in the station is detected by said congestion detection means (see Fukuta; col. 6 lines 8-19; "congestion detector 223 for measuring the number of occupied packets in a buffer to detect buffer congestion and with a congestion indicator adding circuit 225 for setting the congestion indicator region(CONG)"), said response means conducts congestion control (see Fukuta; FIG. 16; "CONGESTION CEASE NOTICE" is a congestion control notice, thus conducting congestion control) by a response to the request to receive and accept (see Fukuta; FIG. 16; "CONGESTION CEASE NOTICE" is in response to "POLLING" if congestion exists) said message (see Fukuta; FIG. 16; "DATA") from the first interconnected station (see Fukuta; FIG. 16; "DATA" is from "PACKET TERMINAL EQUIPMENT 50a" and "PACEKT SWITCH 60a-c" thus from the output side to the station input side), wherein polling of the first

interconnected station causes a reduction in message throughput received by the station on the input side from the first interconnected station (see Fukuta; col. 13 lines 35-50; “The processing here to reduce the packet flow rate indicates in a case of a window control an operation to lower a window size to a fixed value, whereas the processing to increase the packet flow rate denotes an operation to gradually increase the window size” AND “In addition, e.g. as shown in FIG 16, after a packet communication equipment receives a congestion notice packet, packet transmission may be stopped such that thereafter a polling packet is transmitted at a constant interval of time and, if the congestion is already resolved, a switch responds to the polling packet to transmit a congestion cease notice packet, thereby resulting in decrease of the packet flow rate.”).

Fukuta is suggestive about:

Regarding claim 25, wherein the responding comprises delaying the response (Fukuta does not refer to "delay" throughout his document. He talks about "POLLING” during a “CONGESTION PERIOD” thus an existence of some sort of delay but is silent about a delay specified by STATION with a prescribed time interval)

However, in the packet switched congestion control field of endeavor:

Tokura more specifically discloses:

Regarding claim 25, wherein the responding comprises delaying the response (see Tokura; FIG. 1A, 1B, 1C, 2A, 2B, and 2C; “destination appointed shorter window width” thus a delay for transmitting data if the window was longer;

col. 10 lines 18-27; "transfer rate is decreased by setting a packet transmission interval corresponding to $(A*(V_{now} / A)^{Y}$. The packet transmission interval is the value is the value obtained by dviding the packet transfer value V_{now} at that point in time by a minimum packet transfer rate A, raising this to the power y where y is a constant (y<1), and multiplying this by the minimum packet transfer rate A)

Given that the invention of Fukuta and Tokura both relate to packet switched congestion control, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Fukuta, as taught by Tokura, thereby preventing packets from being discarded in the packet network (see Tokura; abstract), allowing buffer memory capacity of nodes in the network to be decreased (see Tokura; abstract), and avoiding the generation of new packets when signal congestion is predicted (see Tokura; abstract).

Fukuta discloses:

Regarding claim 35, (New) A station (see Fukuta; FIG. 12 and FIG. 13; “PACKET TERMINAL EQUIPMENT 50b”) for receiving a message (see Fukuta; FIG. 12 and FIG. 13; “DATA”) from a first interconnected station (see Fukuta; FIG. 12 and FIG. 13; "PACKET TERMINAL EQUIPMENT 50a” and “PACKET SWITCHES 60a-c”) on an input side (i.e. input side of the “PACKET TERMINAL EQUIPMENT 50b”; see Fukuta; FIG. 12 and FIG. 13; devices "50a" and "60 a-c" are sending "DATA" to "PACKET TERMINAL EQUIPMENT 50b” thus on “the

input side" of "PACKET TERMINAL EQUIPMENT 50b") and transmitting message information relating to the received message (see Fukuta; FIG. 12 and FIG. 13; "CONGESTION NOTICE"; col. 11 lines 41-55; "The packet switch 60c transfers at an occurrence of the congestion, a packet from the packet communications equipments equipment 50a to the packet communication equipment 50b and sends further a congestion notice packet to the packet communication equipment 50a") to a second interconnected station on an output side (see Fukuta; FIG. 12 and FIG. 13; "PACKET TERMINAL EQUIPMENT 50a" and "PACKET SWITCHES 60a-c"; col. 11 lines 41-55; "The packet switch 60c transfers at an occurrence of the congestion, a packet from the packet communications equipments equipment 50a to the packet communication equipment 50b and sends further a congestion notice packet to the packet communication equipment 50a" thus sends it downstream to a interconnected station on the output side of the station), comprising: a response unit (see Fukuta; FIG. 16; "CONGESTION CEASE NOTICE" generated by response means.) that sends a response (see Fukuta; FIG. 16; "CONGESTION CEASE NOTICE") to a request to receive and accept the message (see Fukuta; FIG. 16; "POLLING"; col. 13 lines 35-49; using "polling packet" to poll receiver by transmitter to determine if receiver will receive and accept a message), the request being sent from the first interconnected station (see Fukuta; FIG. 12, FIG. 13, FIG. 16; PACKET TERMINAL EQUIPMENT 50a" and "PACKET SWITCHES 60a-c" are on the input side of "PACKET TERMINAL EQUIPMENT

50b"; FIG. 16; "CONGESTION CEASE NOTICE" sent after "POLLING" and before "DATA"); and a congestion detector (see Fukuta; col. 6 lines 8-19; "congestion detector 223 for measuring the number of occupied packets in a buffer to detect buffer congestion and with a congestion indicator adding circuit 225 for setting the congestion indicator region(CONG)"), coupled to the response unit, that detects whether congestion has occurred in the second interconnected station (see Fukuta; FIG. 16; "CONGESTION NOTICE", "CONGESTION PERIOD", "CONGESTION CEASE NOTICE" thus existence of a congestion detections means that, by definition, detects whether congestion has occur on the interconnection station on the output side), wherein, when occurrence of congestion (see Fukuta; FIG. 16; "CONGESTION NOTICE" after data sent, thus an occurance of congestion) is detected by the congestion detector (see Fukuta; col. 6 lines 8-19; "congestion detector 223 for measuring the number of occupied packets in a buffer to detect buffer congestion and with a congestion indicator adding circuit 225 for setting the congestion indicator region(CONG)"), the response unit conducts congestion control (see Fukuta; FIG. 16; "CONGESTION CEASE NOTICE" is a congestion control notice, thus conducting congestion control) by a response to the request to receive and accept (see Fukuta; FIG. 16; "CONGESTION CEASE NOTICE" is in response to "POLLING" if congestion exists) the message (see Fukuta; FIG. 16; "DATA") for a prescribed delay time (see Fukuta; FIG. 16; "DATA" is from "PACKET TERMINAL EQUIPMENT 50a" and "PACEKT SWITCH 60a-c" thus from the output side to the station input

side), wherein polling of the first interconnected station causes a reduction in message throughput received by the station on the input side from the first interconnected station (see Fukuta; col. 13 lines 35-50; “The processing here to reduce the packet flow rate indicates in a case of a window control an operation to lower a window size to a fixed value, whereas the processing to increase the packet flow rate denotes an operation to gradually increase the window size” AND “In addition, e.g. as shown in FIG 16, after a packet communication equipment receives a congestion notice packet, packet transmission may be stopped such that thereafter a polling packet is transmitted at a constant interval of time and, if the congestion is already resolved, a switch responds to the polling packet to transmit a congestion cease notice packet, thereby resulting in decrease of the packet flow rate.”).

Fukuta is suggestive about:

Regarding claim 17, wherein the responding comprises *delaying the response* (Fukuta does not refer to "delay" throughout his document. He talks about "POLLING” during a “CONGESTION PERIOD” thus an existence of some sort of delay but is silent about a delay specified by STATION with a prescribed time interval)

However, in the packet switched congestion control field of endeavor:

Tokura more specifically discloses:

Regarding claim 17, wherein the responding comprises *delaying the response* (see Tokura; FIG. 1A, 1B, 1C, 2A, 2B, and 2C; “destination appointed

shorter window width" thus a delay for transmitting data if the window was longer; col. 10 lines 18-27; "transfer rate is decreased by setting a packet transmission interval corresponding to $(A*(V_{now} / A)^{Y}$. The packet transmission interval is the value is the value obtained by dividing the packet transfer value V_{now} at that point in time by a minimum packet transfer rate A, raising this to the power y where y is a constant (y<1), and multiplying this by the minimum packet transfer rate A)

Given that the invention of Fukuta and Tokura both relate to packet switched congestion control, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Fukuta, as taught by Tokura, thereby preventing packets from being discarded in the packet network (see Tokura; abstract), allowing buffer memory capacity of nodes in the network to be decreased (see Tokura; abstract), and avoiding the generation of new packets when signal congestion is predicted (see Tokura; abstract).

3. Claims 19, 20 and 27, 28 and 37, 38 rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta ("US 5,090,011") in view of Tokura ("US 5,400,329"), and further in view of Shozo ("JP 2002-185500").

Fukuta in view of Tokura disclose:

Regarding claim 19, the station, with congestion control.

Regarding claim 20, the station, with a plurality of interconnected stations.

Fukuta in view of Tokura are silent about:

Regarding claim 19, wherein the congestion control is also conducted with switching means for switching said message information of the session in which the congestion has occurred to another session when the occurrence of congestion is detected by said congestion detection means.

However, in a related field of endeavor:

Shozo discloses:

Regarding claim 19, wherein the congestion control (see Shozo; abstract; "a communication system for setting and updating proper alternative routes in the standard network system of a 3rd GPP and for eliminating effectively generations of the congestion") is also conducted with switching means for switching said message information of the session in which the congestion has occurred to another session when the occurrence of congestion is detected by said congestion detection means (see Shozo; claim 1; "Communication system characterized by performing a setup and updating of a communication link of a

suitable alternative route, and preventing generating of congestion by supervising the traffic on a communication network and having the connection management node which controls the communication path in the communication system of GPRS").

Regarding claim 20, wherein the plurality of interconnected stations (see Shozo; drawing 10) on the output side and congestion (see Shozo; paragraph 0015; "congestion") has occurred or a closed state has been assumed in all the sessions to a specific interconnected station on the output side (see Shozo; paragraphs 0016-0025), said switching means distributes and sends said message information to other interconnected stations on the output side (see Shozo; paragraph 0025; "the communication system of GPRS, by supervising the traffic on a communication network and having the connection management node which controls the communication path, the communication system of this invention performs a setup and updating of a communication link of a suitable alternative route, and is characterized by preventing generating of congestion.").

Given that the invention of Fukuta in view of Tokura and Shozo both relate to lightening the load of communication (i.e. congestion; see Shozo; Abstract) in a communication medium, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Fukuta in view of Tokura, as taught by Shozo, thereby providing a communication system for setting and updating proper alternative routes in the standard network system of a 3rd GPP and for eliminating

effectively generations of the congestions, to provide a determining method for the alternative routes, and to provide a recording medium for recoding therein the determining program of the alternative routes (see Shozo; abstract).

Fukuta in view of Tokura disclose:

Regarding claim 27, the station, with congestion control.

Regarding claim 28, the station, with a plurality of interconnected stations.

Fukuta in view of Tokura are silent about:

Regarding claim 27, wherein the congestion control is also conducted with switching means for switching said message information to another session when the occurrence of congestion in the second interconnected station is detected by said congestion detection means.

However, in a related field of endeavor:

Shozo discloses:

Regarding claim 27, wherein the congestion control (see Shozo; abstract; "a communication system for setting and updating proper alternative routes in the standard network system of a 3rd GPP and for eliminating effectively generations of the congestion") is also conducted with switching means for switching said message information to another session when the occurrence of congestion in the second interconnected station is detected by said congestion detection means (see Shozo; claim 1; "Communication system characterized by performing a setup and updating of a communication link of a suitable alternative

route, and preventing generating of congestion by supervising the traffic on a communication network and having the connection management node which controls the communication path in the communication system of GPRS").

Regarding claim 28, wherein the plurality of interconnected stations (see Shozo; drawing 10) on the output side and congestion (see Shozo; paragraph 0015; "congestion") has occurred or a closed state has been assumed in all the sessions to a specific interconnected station on the output side (see Shozo; paragraphs 0016-0025), said switching means distributes and sends said message information to other interconnected stations on the output side (see Shozo; paragraph 0025; "the communication system of GPRS, by supervising the traffic on a communication network and having the connection management node which controls the ocmmuncation path, the communication system of this invention performs a setup and updating of a communication link of a suitable alternative route, and is characterized by preventing generating of congestion.").

Given that the invention of Fukuta in view of Tokura and Shozo both relate to lightening the load of communication (i.e. congestion; see Shozo; Abstract) in a communication medium, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Fukuta in view of Tokura, as taught by Shozo, thereby providing a communication system for setting and updating proper alternative routes in the standard network system of a 3rd GPP and for eliminating effectively generations of the congestions, to provide a determining method for the

alternative routes, and to provide a recording medium for recoding therein the determining program of the alternative routes (see Shozo; abstract).

Fukuta in view of Tokura disclose:

Regarding claim 37, the station , with congestion control.

Regarding claim 38, the station , with congestion control.

Fukuta in view of Tokura are silent about:

Regarding claim 37, wherein the station, further comprising: a switch that switches the message information to another session when the occurrence of congestion is detected by the congestion detector.

Regarding claim 38, wherein, when there are a plurality of interconnected stations on the output side and congestion has occurred or a closed state has been assumed in all the sessions to a specific interconnected station on the output side, the switch distributes and sends the message information to other interconnected stations on the output side.

However, in a related field of endeavor:

Shozo discloses:

Regarding claim 37, wherein the station, further comprising: a switch that switches the message information to another session when the occurrence of congestion (see Shozo; abstract; “a communication system for setting and updating proper alternative routes in the standard network system of a 3rd GPP and for eliminating effectively generations of the congestion”) is detected by the

congestion detector (see Shozo; claim 1; "Communication system characterized by performing a setup and updating of a communication link of a suitable alternative route, and preventing generating of congestion by supervising the traffic on a communication network and having the connection management node which controls the communication path in the communication system of GPRS").

Regarding claim 38, wherein, when there are a plurality of interconnected stations (see Shozo; drawing 10) on the output side and congestion (see Shozo; paragraph 0015; "congestion") has occurred or a closed state has been assumed in all the sessions to a specific interconnected station on the output side (see Shozo; paragraphs 0016-0025), the switch distributes and sends the message information to other interconnected stations on the output side (see Shozo; paragraph 0025; "the communication system of GPRS, by supervising the traffic on a communication network and having the connection management node which controls the ocmmuncation path, the communication system of this invention performs a setup and updating of a communication link of a suitable alternative route, and is characterized by preventing generating of congestion.").

Given that the invention of Fukuta in view of Tokura and Shozo both relate to lightening the load of communication (i.e. congestion; see Shozo; Abstract) in a communication medium, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Fukuta in view of Tokura, as taught

by Shozo, thereby providing a communication system for setting and updating proper alternative routes in the standard network system of a 3rd GPP and for eliminating effectively generations of the congestions, to provide a determining method for the alternative routes, and to provide a recording medium for recoding therein the determining program of the alternative routes (see Shozo; abstract).

4. Claims 21, 22 and 29, 30 rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta ("US 5,090,011") in view of Tokura ("US 5,400,329"), and further in view of SMS Forum ("Short Message Peer to Peer Protocol Specification").

Fukuta in view of Tokura disclose:

Regarding claim 21, the station , wherein said congestion detection means (see Fukuta; col. 6 lines 8-19; "congestion detector 223 for measuring the number of occupied packets in a buffer to detect buffer congestion and with a congestion indicator adding circuit 225 for setting the congestion indicator region(CONG)") detects that congestion has occurred in the second interconnected station (see Fukuta; FIG. 16; "CONGESTION NOTICE", "CONGESTION PERIOD", "CONGESTION CEASE NOTICE" thus existence of a congestion detections means that, by definition, detects whether congestion has occur on the interconnection station on the output side) in a response returned from the interconnected station on (see Fukuta; FIG. 16; "CONGESTION CEASE NOTICE" is a congestion control notice, thus conducting congestion control) in response to a request to transfer said message information to the second interconnected station on the output side (see Fukuta; FIG. 12 and FIG. 13; "PACKET TERMINAL EQUIPMENT 50a" and "PACKET SWITCHES 60a-c"; col. 11 lines 41-55; "The packet switch 60c transfers at an occurrence of the congestion, a packet from the packet communications equipments equipment 50a to the packet communication equipment 50b and sends further a congestion

notice packet to the packet communication equipment 50a" thus sends it downstream to a interconnected station on the output side of the station).

Regarding claim 22, the station , wherein said congestion detection means (see Fukuta; col. 6 lines 8-19; "congestion detector 223 for measuring the number of occupied packets in a buffer to detect buffer congestion and with a congestion indicator adding circuit 225 for setting the congestion indicator region(CONG)") detects that congestion has occurred in the second interconnected station (see Fukuta; FIG. 16; "CONGESTION NOTICE", "CONGESTION PERIOD", "CONGESTION CEASE NOTICE" thus existence of a congestion detections means that, by definition, detects whether congestion has occur on the interconnection station on the output side) in the response from the second interconnected station (see Fukuta; FIG. 16; "CONGESTION CEASE NOTICE" is a congestion control notice, thus conducting congestion control) to a request to transfer said message information to the second interconnected station (see Fukuta; FIG. 12 and FIG. 13; "PACKET TERMINAL EQUIPMENT 50a" and "PACKET SWITCHES 60a-c"; col. 11 lines 41-55; "The packet switch 60c transfers at an occurrence of the congestion, a packet from the packet communications equipments equipment 50a to the packet communication equipment 50b and sends further a congestion notice packet to the packet communication equipment 50a" thus sends it downstream to a interconnected station on the output side of the station).

Fukuta in view of Tokura are suggesting about:

Regarding claim 21, wherein the response contains an error indicating congestion (see Fukuta; FIG. 13; "CONGESTION NOTICE" represents the congestion state. Whether there is congestion or not, Thus suggestive of a parameter describing the congestion state.).

Regarding claim 22, detection from a parameter representing a congestion state wherein the parameter is contained in said response (see Fukuta; FIG. 13; "CONGESTION NOTICE" represents the congestion state. Whether there is congestion or not, Thus suggestive of a parameter describing the congestion state.).

However, in a related field of endeavor:

SMS Forum discloses:

Regarding claim 21, wherein the response contains an error indicating congestion (see SMS Forum; page 43 "2.9 Flow Control and Congestion Avoidance"; "congestion_state TLV. This parameter may be optionally included in a response PDU sent between an ESME and MC. This TLV contains a simple integer from 0-100 to indicate the congestion state ranging from idle to congested. Refer to 4.8.4.18 for details on the values acceptable for this TLV").

Regarding claim 22, from a parameter representing a congestion state wherein the parameter is contained in said response (see SMS Forum; page 43 "2.9 Flow Control and Congestion Avoidance"; "congestion_state TLV. This parameter may be optionally included in a response PDU sent between an ESME and MC. This TLV contains a simple integer from 0-100 to indicate the

congestion state ranging from idle to congested. Refer to 4.8.4.18 for details on the values acceptable for this TLV").

Given that the invention of Fukuta in view of Tokura and SMS Forum both relate to field of congestion control (see SMS Forum; page 43 "2.9 Flow Control and Congestion Control") in an TCP/IP based network (see SMS Forum; page 12 "Figure 1-1 SMPP Network Diagram"), it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Fukuta in view of Tokura, as taught by SMS Forum, thereby better assist a peer (ESME or MC) in avoiding congestion by providing a mechanism to provide the receiving peer with an indication of its state of congestion (see SMS Forum; page 43 "2.9 Flow Control Congestion Avoidance").

Fukuta in view of Tokura disclose:

Regarding claim 29, the station , wherein said congestion detection means (see Fukuta; col. 6 lines 8-19; "congestion detector 223 for measuring the number of occupied packets in a buffer to detect buffer congestion and with a congestion indicator adding circuit 225 for setting the congestion indicator region(CONG)") detects that congestion has occurred in the second interconnected station (see Fukuta; FIG. 16; "CONGESTION NOTICE", "CONGESTION PERIOD", "CONGESTION CEASE NOTICE" thus existence of a congestion detections means that, by definition, detects whether congestion has

occur on the interconnection station on the output side) has been returned from the second interconnected station (see Fukuta; FIG. 16; “CONGESTION CEASE NOTICE” is a congestion control notice, thus conducting congestion control) in response to a request to transfer said message information to the interconnected station (see Fukuta; FIG. 12 and FIG. 13; "PACKET TERMINAL EQUIPMENT 50a” and “PACKET SWITCHES 60a-c”; col. 11 lines 41-55; “The packet switch 60c transfers at an occurrence of the congestion, a packet from the packet communications equipments equipment 50a to the packet communication equipment 50b and sends further a congestion notice packet to the packet communication equipment 50a” thus sends it downstream to a interconnected station on the output side of the station).

Regarding claim 30, the station , wherein said congestion detection means (see Fukuta; col. 6 lines 8-19; “congestion detector 223 for measuring the number of occupied packets in a buffer to detect buffer congestion and with a congestion indicator adding circuit 225 for setting the congestion indicator region(CONG)”) detects that congestion has occurred in the second interconnected station (see Fukuta; FIG. 16; “CONGESTION NOTICE”, “CONGESTION PERIOD”, “CONGESTION CEASE NOTICE” thus existence of a congestion detections means that, by definition, detects whether congestion has occur on the interconnection station on the output side) in the response from the second interconnected station (see Fukuta; FIG. 16; “CONGESTION CEASE NOTICE” is a congestion control notice, thus conducting congestion control) to a

request to transfer said message information to the second interconnected station (see Fukuta; FIG. 12 and FIG. 13; "PACKET TERMINAL EQUIPMENT 50a" and "PACKET SWITCHES 60a-c"; col. 11 lines 41-55; "The packet switch 60c transfers at an occurrence of the congestion, a packet from the packet communications equipments equipment 50a to the packet communication equipment 50b and sends further a congestion notice packet to the packet communication equipment 50a" thus sends it downstream to a interconnected station on the output side of the station)

Fukuta in view of Tokura are suggesting about:

Regarding claim 29, wherein the response contains an error indicating congestion (see Fukuta; FIG. 13; "CONGESTION NOTICE" represents the congestion state. Whether there is congestion or not, Thus suggestive of a parameter describing the congestion state.).

Regarding claim 30, detection from a parameter representing a congestion state wherein the parameter is contained in said response (see Fukuta; FIG. 13; "CONGESTION NOTICE" represents the congestion state. Whether there is congestion or not, Thus suggestive of a parameter describing the congestion state.).

However, in a related field of endeavor:

SMS Forum discloses:

Regarding claim 29, wherein the response contains an error indicating congestion (see SMS Forum; page 43 "2.9 Flow Control and Congestion

Avoidance"; "congestion_state TLV. This parameter may be optionally included in a response PDU sent between an ESME and MC. This TLV contains a simple integer from 0-100 to indicate the congestion state ranging from idle to congested. Refer to 4.8.4.18 for details on the values acceptable for this TLV").

Regarding claim 30, from a parameter representing a congestion state wherein the parameter is contained in said response (see SMS Forum; page 43 "2.9 Flow Control and Congestion Avoidance"; "congestion_state TLV. This parameter may be optionally included in a response PDU sent between an ESME and MC. This TLV contains a simple integer from 0-100 to indicate the congestion state ranging from idle to congested. Refer to 4.8.4.18 for details on the values acceptable for this TLV").

Given that the invention of Fukuta in view of Tokura and SMS Forum both relate to field of congestion control (see SMS Forum; page 43 "2.9 Flow Control and Congestion Control") in an TCP/IP based network (see SMS Forum; page 12 "Figure 1-1 SMPP Network Diagram"), it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Fukuta in view of Tokura, as taught by SMS Forum, thereby better assist a peer (ESME or MC) in avoiding congestion by providing a mechanism to provide the receiving peer with an indication of its state of congestion (see SMS Forum; page 43 "2.9 Flow Control Congestion Avoidance").

5. Claims 18, 24 and 26, 32 and 36, 40 rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta ("US 5,090,011") in view of Tokura ("US 5,400,329"), and further in view of Thornberg ("US 5,757,772").

Fukuta in view of Tokura disclose:

Regarding claim 18, the station and a prescribed delay time..

Regarding claim 24, the station , further comprising: issuance means for issuing a circuit state verification request with a prescribed period (see Fukuta; col 16 lines 21-40; "The packet communication equipment 50a having received the congestion notice packet thereafter interrupts the transmission of data packet so as to transmit a polling packet at a constant interval of time") with respect to a session (see Fukuta; FIG. 12; establishment of a session) in the second interconnected station that is to be detected in a congested state by said congestion detection means (see Fukuta; FIG. 13; time-based congestion illustration).

Fukuta in view of Tokura are silent about:

Regarding claim 18, wherein said prescribed delay time is a time obtained by dividing an average response time from the interconnected station on the output side by a session number in the interconnected station on the output side that is multiplied by a margin ratio.

Regarding claim 24, congestion detection means detects that a congested state in said session has been eliminated when an average response time in a

plurality of the latest responses to the issued requests from said issuance means has become equal to or less than an average response time in a normal state.

However, in a related field of endeavor:

Thornberg discloses:

Regarding claim 18, wherein said prescribed delay time (see Thornberg; FIG. 10 ; "AVERAGE PACKET DELAY CALCULATOR") is a time obtained by dividing an average response time (see Thornberg) from the second interconnected station by a session number (see Thornberg) in the second interconnected station on that is multiplied by a margin ratio (see Thornberg; ; FIG. 11; "SELECTOR" for calculations).

. Regarding claim 24, congestion detection means detects that a congested state (see Thornberg; FIG. 8A; "EVALUATE CONGESTION", thus a congestion detection means) in said session has been eliminated when the average response time in a plurality of the latest responses to the issued requests from said issuance means has become equal to or less than the average response time in the normal state (see Thornberg; col. 16 lines 47-57; "To evaluate congestion at step 818 it is determined if $T<T_{con}$").

Given that the invention of Fukuta in view of Tokura and Thornberg both relate to congestion control (see titles), it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Fukuta in view of Tokura, as taught by Thornberg, thereby creating providing a method and system for controlling

packet transmission delay on one or more packet switched radio channels (see Thornberg; col. 2 lines 18-26) through a method and system for managing the flow of prioritized user to, from, and between one or more packet switched radio channels, with each packet switched radio channel having a maximum tolerable packet transmission delay (see Thornberg; col. 2 lines 27-31).

Fukuta in view of Tokura disclose:

Regarding claim 26, the station , and a prescribed delay time.

Regarding claim 32, the station , further comprising: issuance means for issuing a circuit state verification request with a prescribed period (see Fukuta; col 16 lines 21-40; "The packet communication equipment 50a having received the congestion notice packet thereafter interrupts the transmission of data packet so as to transmit a polling packet at a constant interval of time") with respect to a session (see Fukuta; FIG. 12; establishment of a session) in the second interconnected station that is detected to be in a congested state by said congestion detection means (see Fukuta; FIG. 13; time-based congestion illustration)

Fukuta in view of Tokura are silent about:

Regarding claim 26, wherein said prescribed delay time is a time obtained by dividing an average response time from the second interconnected station by a session number in the second interconnected station that is multiplied by a margin ratio.

Regarding claim 32, congestion detection means detects that a congested state in said session has been eliminated when the average response time in a plurality of the latest responses to the issued requests from said issuance means has become equal to or less than the average response time in the normal state.

However, in a related field of endeavor:

Thornberg discloses:

Regarding claim 26, wherein said prescribed delay time (see Thornberg; FIG. 10 ; "AVERAGE PACKET DELAY CALCULATOR") is a time obtained by dividing an average response time (see Thornberg) from the second interconnected station by a session number (see Thornberg) in the second interconnected station that is multiplied by a margin ratio (see Thornberg; ; FIG. 11; "SELECTOR" for calculations).

. Regarding claim 32, congestion detection means detects that a congested state (see Thornberg; FIG. 8A; "EVALUATE CONGESTION", thus a congestion detection means) in said session has been eliminated when an=average response time in a plurality of the latest responses to the issued requests from said issuance means has become equal to or less than an average response time in a normal state (see Thornberg; col. 16 lines 47-57; "To evaluate congestion at step 818 it is determined if $T<T_{con}$").

Given that the invention of Fukuta in view of Tokura and Thornberg both relate to congestion control (see titles), it would have been obvious to one of ordinary skill in the

art at the time of the invention to modify the invention of Fukuta in view of Tokura, as taught by Thornberg, thereby creating providing a method and system for controlling packet transmission delay on one or more packet switched radio channels (see Thornberg; col. 2 lines 18-26) through a method and system for managing the flow of prioritized user to, from, and between one or more packet switched radio channels, with each packet switched radio channel having a maximum tolerable packet transmission delay (see Thornberg; col. 2 lines 27-31).

Fukuta in view of Tokura disclose:

Regarding claim 36, the station and a prescribed delay time.

Regarding claim 40. (New) The station according to claim 35, further comprising: a verification request issuer that issues a circuit state verification request with a prescribed period (see Fukuta; col 16 lines 21-40; "The packet communication equipment 50a having received the congestion notice packet thereafter interrupts the transmission of data packet so as to transmit a polling packet at a constant interval of time") with respect to a session (see Fukuta; FIG. 12; establishment of a session) in the second interconnected station that is detected to be in a congested state by said congestion detector (see Fukuta; FIG. 13; time-based congestion illustration).

Fukuta in view of Tokura are silent about:

Regarding claim 36, (New) The station according to claim 35, wherein the prescribed delay time is a time obtained by dividing an average response time

from the second interconnected station by a session number in the second interconnected station that is multiplied by a margin ratio.

Regarding claim 40, wherein the congestion detector detects that a congested state in said session has been eliminated when the average response time in a plurality of the latest responses to the issued requests from the verification request issuer has become equal to or less than an average response time in a normal state.

However, in a related field of endeavor:

Thornberg discloses:

Regarding claim 36, (New) wherein the prescribed delay time (see Thornberg; FIG. 10 ; "AVERAGE PACKET DELAY CALCULATOR") is a time (see Thornberg) obtained by dividing an average response time (see Thornberg) from the second interconnected station by a session number (see Thornberg) in the second interconnected station that is multiplied by a margin ratio (see Thornberg; ; FIG. 11; "SELECTOR" for calculations).

Regarding claim 40, wherein the congestion detector detects that a congested state (see Thornberg; FIG. 8A; "EVALUATE CONGESTION", thus a congestion detection means) in said session has been eliminated when the average response time in a plurality of the latest responses to the issued requests from the verification request issuer has become equal to or less than an average response time in a normal state (see Thornberg; col. 16 lines 47-57; "To evaluate congestion at step 818 it is determined if $T<T_{con}$").

Given that the invention of Fukuta in view of Tokura and Thornberg both relate to congestion control (see titles), it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Fukuta in view of Tokura, as taught by Thornberg, thereby creating providing a method and system for controlling packet transmission delay on one or more packet switched radio channels (see Thornberg; col. 2 lines 18-26) through a method and system for managing the flow of prioritized user to, from, and between one or more packet switched radio channels, with each packet switched radio channel having a maximum tolerable packet transmission delay (see Thornberg; col. 2 lines 27-31).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM DUDA whose telephone number is (571)270-5136. the examiner can normally be reached on Mon. - Fri. 9:30 a.m. - 7:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang B. Yao can be reached on (571) 272 - 3182. the fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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